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ABSTRACT

This paper introduces the antecedents and concepts underlying a 2-year investigation of Interactive Research and Development on Schooling (IR&DS). IR&DS is an alternative means of conducting school-based research and development and is seen as a means to: (1) involve school personnel in systematic inquiry; (2) improve the utility of research findings for the improvement of educational practice; (3) reduce the time lag between knowledge generation and knowledge utilization; (4) strengthen local education agency capability to act upon school problems; (5) coordinate school improvement activities between higher education agencies and local education agencies; (6) generate knowledge about schooling practices; and (7) provide professional growth opportunities to participants in the process. The paper is organized into six sections. First, an overview of IR&DS is presented. This is followed by a delineation of the purposes of the implementation of the strategy. Antecedents to IR&DS are presented with particular attention given to the first test of the model in the late 1970s. The differences between that test and the present study are discussed. Last, the relation between IR&DS and school improvement and staff development is advanced as a preliminary proposition based upon findings from the present study. (JD)

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INTERACTIVE RESEARCH AND DEVELOPMENT ON SCHOOLING: ANTECEDENTS, PURPOSES, AND SIGNIFICANCE FOR SCHOOL IMPROVEMENT

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INTERACTIVE RESEARCH AND DEVELOPMENT ON SCHOOLING: ANTECEDENTS, PURPOSES, AND SIGNIFICANCE FOR SCHOOL IMPROVEMENT

Introduction

This paper introduces tne antecedents and concepts underlying a two-year investigation of Interactive Research and Development on Schooling (IR&DS). IR&DS is an alternate means of conducting school-based research and development and is seen as a means to (1) involve school persons in systematic inquiry, (2) improve the utility of research findings for the improvement of educational practice, (3) reduce the time lag between knowledge generation and knowledge utilization, (4) strengthen local education agency capability to act upon school problems, (5) coordinate school improvement activities between higher education agencies and local education agencies, (6) generate knowledge about schooling practices, and (7) provide professional growth opportunities to participants in the process.

The paper is organized into six sections. First, an overview of IR&DS is presented. This is followed by a delineation of the purposes of the implementation of the strategy. Antecedents to IR&DS are presented with particular attention given to the first test of the model in the late 1970's. The differences between that test and the present study are discussed. Last, the relation between IR&DS and school improvement and staff development is advanced as a preliminary proposition based upon findings from the present study.

Interactive Research and Development on Schooling

IR&DS is an extension of Interactive Research and Development on Teaching (IR&DT) (Tikunoff, Ward, & Griffin, Note 1) which is discussed below. IR&DS is an approach to conducting educational r and d which departs in several distinct ways from more typical ones. First, the r and d is planned and implemented by a team composed of school persons, researchers, and developers.

(The term "developer" refers to anyone charged with school improvement or staff development. Thus, a "developer" might be a teacher educator, a principal, a school district official, a staff development specialist, etc.) Second, the school persons are expected to influence the problem identification to a significant degree. This is in marked contrast to the conventional practice of a university-based person having the primary influence upon what research regarding schooling is to be conducted. Third, the team members are expected to contribute to the r and d processes according to their professional roles and bodies of expertise. Fourth, the r and d are expected to be interactive. That is, the IR&DS teams are to keep in mind the potential utility of their research for improvement of practice from the beginning of the research process. This contrasts with usual practices which typically depend upon development to be formulated after the research has been conducted. (It has been estimated that this "wait time" between conventional r and d lasts from five to nine years.) Fifth, the products of the teams' work are to be of immediate and practical use to colleagues in their immediate settings and in like settings.

These differences between IR&DS and typical r and d are noted as "features of IR&DT" and are discussed below.

The present study was designed as a means to test the interactive strategy in a variety of settings. As will be seen from the discussion of antecedents of IR&DS in a later section of this paper, IR&DS modifies and extends what might be called situation-specific problem solving. Rather than study the effects of the strategy in one setting (or in settings which are markedly similar), it was decided to examine the strategy in several very different settings to determine the degree to which it contributes to the improvement of practice regardless of such issues as problem differences,

context distinctions, organizational missions, and the like. It was believed important to understand the degree to which such differences impact upon the successful implementation of the strategy and the degree to which the strategy impacts upon the context variables.

Consequently, the IR&DS study examined the implementation processes and products in (1) a typically-organized suburban school district, (2) a teacher union-sponsored teacher center consortium, and (3) an intermediate agency whose mission is to provide services to a number of participating school districts.

The key term "interactive" is, of course, open to several definitions. It is important to acknowledge that the original use of the word had to do with the relationship of research to development, as noted earlier. That is, the research and development are planned and conducted concurrently or in overlapping patterns of activity. "Interactive" in the present study also means the relationships between and among the members of the IR&DS teams. Thus, IR&DS is interactive through the mix of persons and the mix of processes (r and d).

Purposes of the Study

The purposes of the study of IR&DS were to:

1. conduct Interactive Research and Development on Schooling in three markedly different settings.
2. determine the degree to which the strategy is appropriate for acting upon a variety of schooling issues.
3. determine the degree to which the findings of the initial implementation of IR&DT held true when the object of the r and d was altered.

4. determine the degree to which self-reported professional and personal growth of participants is positive.
5. determine the apparent relation between institutional arrangements and the process/product quality of teams' r and d.
6. determine the degree to which the strategy can be maintained efficiently and effectively with minimal financial and other fiscal resources.
7. determine the degree to which institutional contribution in terms of human and material resources is related to the success of the strategy.
8. determine the relation of specific context variables to the implementation of the strategy.

It should be acknowledged that the research reported in this symposium is of two orders. One is an inquiry into the implementation of IR&DS. That is, the principal object of this paper and the one by Lieberman and Jacullo-Noto (Note 2) is the strategy itself with particular attention given to the issues of school improvement and the relation of contexts to the implementation of the strategy. The other papers report the research and development conducted by the three IR&DS teams (Notes 3, 4, 5).

Antecedents to IR&DS

Ward and Tikunoff (Note 6), in a paper on collaborative research commissioned by the National Institute of Education, provide a useful framework for examining what we consider to be the antecedents of IR&DS. They note four patterns which include (1) school-based collaboration in which school members work together; (2) school district-college/university collaboration on school improvement and problem solving; (3) university-based collaboration with the intent of establishing the receptivity of school

persons to the conduct of research in their "home" settings; and (4) Interactive Research and Development on Teaching, a pattern of collaborative activity which accounts for individual and institutional interaction. Each of these patterns has been observed in practice with the most research community interest received by the last. The four modes will each be discussed briefly.

School-based collaboration. It is highly unlikely that any school has not formed work groups around problems faced by the school members. The objects of attention for these work groups conventionally range from instructional issues ("How can we raise our reading scores?") through social issues ("How can we decrease the fighting on the playground?") and organizational issues ("Should we have mixed-grade classes or try to maintain self-contained, single grade classes?") to political/fiscal issues ("How can we maintain our reading program when the budget for teacher aides is cut?").

These examples illustrate the fundamental difference between school-based collaboration and IR&DS. It will be noted that the examples focus upon the particular school's problems/issues with little attention paid to whether or not solving the problem would help other schools. Also, in school-based collaboration (wherein the collaboration is among members of the school staff) there has been little evidence of systematic inquiry (i.e., research) with the requisite attributes of the research process (e.g., data collection procedures maintained in an undifferentiated manner, accumulation of data which are then subjected to orderly scrutiny, etc.).

The principal differences between school-based collaboration and IR&DS, then, are that (1) collaboration takes place between members of the immediate school organization rather than among members of different organizations, (2) the problems/issues are school specific and little attention is given to whether the problem solving process or product would apply to another setting,

and (3) the problem solving is seldom, if ever, rooted in systematic methods of inquiry.

School district-university collaboration. The main differences between this mode of collaboration and the one discussed earlier are the unit of examination and the addition of university resources to the collaborative process. As is explicit in the label given the model, the unit of examination is the district rather than the school. Also, this strategy involves the participation of university persons in interaction with school persons. The usual manifestation of this interaction is when the university person is seen as a consultant who will help in problem solving. Thus, the school system extends its possible resources available to deal with problem solving by adding university-based persons to the problem solving process.

These elements, system focus and university person involvement, are historically common ones in school improvement activities. They are not, however, typical elements of research activity. In this, school district-university collaboration approaches IR&DS in that the latter can include persons with different institutional memberships (although this is not a requirement) and the focus of the IR&DS research can be the system. These similarities with IR&DS are not often found in school collaboration nor in university-based collaboration systems.

University-based collaboration. In this form of collaboration directionality of process is a critical element. The most conventional manifestation of university-based collaboration is the long-term commitment by members of a university faculty to helping school persons solve their problems. That is, the "expert" from the higher education setting carries a set of process or product answers to questions which arise from the local education agency. The direction, then, in terms of the problem is from the

local setting to the higher education agency and the direction in terms of the solution is reversed.

Although certain purists might disagree with this conclusion, action research (Corey, 1949) conducted during the middle third of this century would fall into this category of collaboration. In action research, it was conventional practice for university professors to move into school settings in an attempt to work with school persons on the problems encountered in the elementary and secondary schools. Typically, these attempts were long-term and characterized by group problem solving techniques. Although action research claimed a fair amount of systematic diagnosis and prescription regarding problem solving, the activities, in retrospect, do not align themselves with widely-held research requisites.

The differences between IR&DS and university-based collaboration include (1) the vesting of "expert" status in the outside university person, (2) the helping (rather than professional-collegial) relation between the university persons and the school persons, (3) the absence of components of disciplined inquiry, and (4) the dependence upon problem alleviation/solution for closure of the relationship.

Interactive Research and Development on Teaching (IR&DT). IR&DT is the precurser of IR&DS. The strategy was proposed by Ward and Tikunoff (1975, Note 6). IR&DT was seen as a means to counter some of the problems which had become associated with linear r and d. (These problems and other issues related to IR&DT, including findings from the original study, are discussed in detail in Tikunoff, Ward, and Griffin, Note 1).

IR&DT can best be understood within the purposes of this brief review by examining the so-called "features" of the strategy. These features are

considered to be essential by the originators of the strategy. Each will be summarized.

1. R and D team composition. The IR&DT teams were composed of three to five teachers, one researcher, and one developer. This composition was designed to ensure that the school practitioner role would be well-represented such that any status influence of the researcher and/or developer could be ameliorated. Further, because the research strategy is designed to act upon school problems, the school-based perspective was expected to dominate the problem-identification phase of the research process. The strategy is <u>not</u> designed to transform teachers (or other school practitioners) into researchers or developers. Therefore, in order to conduct rigorous and useful r and d, it is considered necessary for the team to include persons who have the necessary knowledge and skill related to knowledge production and utilization (researcher and developer). The contribution of the role representatives, then, should inform the r and d processes and products in kind: practitioners use knowledge and skill related to schools and classrooms, researchers contribute their accumulated information and skills to the research phase, and developers keep an eye open to possibilities for school improvement activities. This, it can be seen, is in marked contrast to the less well-defined models of collaboration noted above.

2. The nature of collaboration. A team, whether in athletics or in r and d, depends upon human interactions and decision making for its effectiveness. The nature of collaboration in IR&DT is specified to be working with parity and assuming equal responsibility for the r and d activities to be engaged in. This puts into place a set of norms regarding "who's in charge" which is not typical of hierarchically-organized institutions such as schools. Parity involves sharing of responsibility and

acknowledging needed/given contributions to the processes by team members. In IR&DT it is necessary, also, that persons on the teams assume equal responsibility for what r and d is conducted. It should not be inferred, however, that this equality of responsibility is distributed task by task. It is distributed across the multiplicity of r and d activities. Therefore, the collaboration of IR&DT teams was cumulative rather than point by point. With this definition of collaboration, it is possible to assume that responsibility for certain r and d functions will shift across the time period and across the team. Obviously, then, this form of collaboration depends upon a team norm of mutually recognized, valued, and used knowledge and skill of members.

3. Problem-solving focus. There has been a great deal of concern that conventional educational r and d does not treat effectively persistent school problems and that the treatment of those problems, when it does occur, is not consonant with school persons' views. IR&DT is a strategy which demands a problem orientation. That is, a research issue or question which cannot be verified by school persons as being a school problem could not, by definition, fit into the strategy.

4. Conducting concurrent r and d. As discussed briefly above, an interactive r and d strategy assumes that there is both a temporal and substance relationship between the research and development. In other words, the research informs the development at or about the same points in time. This is in dramatic contrast to the usual time lag between r and d. (In the original test of the interactive strategy both teams in the study used their research processes as well as their research products in their development activities. This, it seemed to the principal investigators, was unique to the strategy and indicated a strongly interactive relationship between r and d.) Subsequent to the IR&DT study, the issue of concurrency was tempered a bit to

include the notion of overlap with the understanding that it would have been (and continue to be) almost impossible for a team to attend to both at the same time over the entire time period of the study.

5. Maintaining the integrity of the classroom. Ward, Tikunoff, and Griffin (Note 1), in reporting the findings of the IR&DT inquiry, cite three experts on classroom and school life to support the contention that artificial controls on school life result in research findings which lack credibility and generalizability. This contention is also shared by many who study schools.

> Too many researchers are preoccupied with research on single instructional variables that rarely account for more than 5% of the variance in student outcomes. Too few study the complex phenomena of schooling in their natural environment, developing the needed new methodologies instead of seeking to adapt the old (Goodlad, 1979, p. 347).

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> Researchers have long stressed objectivity (the truth part of evidence), but have done very little about the other aspects of evidence (the whole truth). We have coefficients of reliability but no coefficients of completeness...completeness refers to the degree to which the data include everything that the occupants of a particular setting are doing, as well as the manner and sequence in which they are doing them (Kounin, Note 8).

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> Classrooms are multidimensional in the sense that they serve a variety of purposes and contain a variety of events and processes, not all of which are necessarily related or even compatible. Although the rhetoric of teacher training often speaks of the teacher, and the student, this

idealized dyad seldom exists in a pure form in the natural setting. Classrooms are crowded not only in the sense that they contain a large number of people. They also enclose a large number of activities and purposes...In addition to the quantity of dimensions in classroom settings, many of the events occur simultaneously...The simultaneous occurrence of multiple dimensions, together with the continuous possibility of internal and external interruptions, contributes to an unpredictability in the sequence of classroom events (Doyle, Note 9).

IR&DT teams, then, were expected to guard against the possibility that the research procedures or research conceptualizations impinged upon the environments of the problem such that neither research procedures or findings would be believable and/or replicable in either the same or different but similar settings.

6. IR&DT as an intervention strategy. The features above are related directly to issues of research and development. IR&DT, however, was demonstrated to be a powerful intervention upon participants. It is this feature which led the principal investigators of the present study to propose IR&DS as both an r and d strategy and as a staff development vehicle. The IR&DT outcomes indicated that participants changed in professional knowledge and skill, perceptions of possibilities for their own and others' school-related activities, sensitivity to other educational roles, and beliefs in the utility of research for acting upon school problems. These outcomes, combined with literature regarding requisites for change (see, for example, Griffin, 1979), suggested that the interactive strategy could be designed and implemented with r and d outcomes and professional development outcomes as anticipated consequences.

IR&DT and IR&DS: Principal Differences

As was noted earlier, the present study is an outgrowth of the original implementation of IR&DT. The differences in the two studies of implementations of essentially the same strategy are noted here.

1. Problem-solving focus. IR&DT was focused upon problems and issues related only and directly to teaching. IR&DS teams were urged to consider any problem or issue in their schooling settings. Because of the team compositions and the contexts to which the practitioner members belonged, it was assumed that the issues dealt with would move beyond teaching. This, in fact, was the case.

2. Time. The IR&DT study was completed in a fourteen-month period. All members of the original teams expressed the view that this was not enough time to go through the research and development processes with completeness. The IR&DS teams were given twenty-two months to complete their r and d.

3. Team resources. The IR&DT teams were able to draw upon non-school system resources to enact their r and d. The cost attached to these activities for the two teams were $95,517 and $82,753. Because the present study was an attempt to determine how interactive r and d could be a professional development opportunity and a local problem-solving device, it was decided to limit the IR&DS teams' access to external funds in order to keep the strategy within reasonable school system financial limits. Therefore, IR&DS teams each had only $2,500 for team expenses during year one and $2,000 during year two.

4. Technical assistance. Technical assistance was provided to teams during the course of the implementation of the strategy. In the IR&DT study, this technical assistance was both reactive and proactive. That is, the principal investigators of the study of the process responded to requests for

technical assistance but also engaged in proactive technical assistance when it appeared that there were problems regarding research or development in either of the two sites. It is difficult to estimate the degree of influence this technical assistance had because of its bi-directionality. The present study was conducted with no instances of technical assistance (substantive rather than procedural) other than as responses to team or team members' requests.

5. Purpose of the study. The IR&DT study was designed primarily as an alternate mode of conducting school-related r and d, as noted earlier. The present study attended to this issue but also placed a great deal of emphasis upon the power of the strategy to affect participants. Also, the present study stressed that attention be given to the contexts of the teams as potential influencers of the strategy. The contextual influence is discussed in Lieberman and Jacullo-Noto (Note 2).

IR&DS as Professional Development

There is considerable evidence from the study of the implementation of IR&DS that the strategy is a potentially powerful, if variably realized, means to accomplish multiple goals. The final report of the study provides this evidence in some detail (Griffin, Lieberman, & Jacullo-Noto, Note 7). Selected findings will be summarized briefly here.

Knowledge of Research and Development

For most IR&DS team participants, entry into the project was characterized by little knowledge of research and development and less admiration for what little was known. Interviews, pre and post participation, illustrated that most IR&DS participants believed that they had learned a great deal about r and d. Regarding research, it is logical that the specific attention given to research steps during orientation and as a consequence of

technical assistance requests would result in greater awareness. Regarding development, perhaps the most dramatic outcome was the recognition by participants that development can be process-oriented rather than only and always product-oriented. That is, teachers and other school persons need not be "given" the development but could be given opportunities to discover, through their own inquiry and professional activity, those processes which ultimately result in growth.

Skill in Planning and Implementing Research and Development

The differences in skill were, to a degree, role-related in that researchers possessed more skill in research, developers in development, teachers in uncovering the problems of teaching. Despite this description of entry characteristics, it is clear from self reports that all participants believe that they increased their skills related to research and development. Obviously, this increase was differential across teams and across roles within teams.

Awareness of School Phenomena

It is axiomatic that identifying and acting upon a perceived problem provides focus for work. Similarly, engaging in IR&DS appears to be related to participants' willingness and ability to more sharply target their work-related activities. What may not be so obvious is that the consequences of engagement in focusing extend beyond the immediate object of attention.

Because one of the essential features of IR&DS is the requirement that r and d be problem-solution oriented, the team members were obligated to identify an issue in need of resolution. This focusing activity was manifested in very different ways by the three IR&DS teams.

One team increased team members' understanding of school phenomena as a system of interacting variables. The concern for children's writing was a

focused inquiry but it was informed by sharpened understanding of student differences, teacher preferences, system rules and policies, parental expectations, and curricular demands. The analysis of this team's meetings demonstrate this more complicated, comprehensive, and useful view of schooling.

Another team, probably as a consequence of prior activities designed to promote professional growth of teachers, entered IR&DS with an expressed desire to understand why some teachers were victims of disillusionment or held otherwise defeatist positions regarding teaching and learning. The IR&DS strategy engaged them in personal and ideological/methodological interactions as a means to narrow the fields of their concern to manageable dimensions. The research-related necessity to pare away the layers of concern about a school problem (in contrast to general senses of malaise which often result in complaints but no solutions) provided team members with opportunities to continue to demonstrate concern over the issue but, also, to think about that concern in such a manner that action upon it became a necessity. During the course of the inquiry it was apparent that team members became more sharply aware of the complexity of schooling generally and the aspects of that complexity which interacted with and, often, impacted upon their object of inquiry.

The third team entered the IR&DS implementation with what appeared to be a more generalized view of the process than the members of the other teams. These team members solved this dilemma by asking their colleagues to advise them regarding issues in need of resolution. Also, they asked students in their setting. Clearly, this process and its consequences increased the team members' awareness of institutional problems and, if only inferentially, provided an agenda for both IR&DS and non-IR&DS efforts.

Impact on Schools and Districts

In general we can say that all of the teams' r and d had an impact on their school districts. This impact, however, must be understood in relation to the context variables with which the teams interacted.

One team was composed of persons who had been members of a district committee responsible for implementation of a new approach to writing. During the IR&DS implementation the team members not only made presentations to the school board but also presented their work to schools and to educational groups outside the district. The district now has a course on translating research into practice and there are several teachers who expect to do their own research as a consequence of the IR&DS study. Each school, in addition, is adapting some of the processes and findings from the teams' research into their own school agendas.

Another team was composed of persons who were already knowledgeable about and relatively skilled in providing staff development for colleagues. They were aware of research and the difficulties of translating research into practice. What they had not done was to do research and use, in their case, both the process and the product for development purposes. Their development strategy serves as powerful evidence that both the process of doing research and the knowledge gained from doing it can be disseminated.

The third team had never done any research and had not been exposed to many of the processes or products of research. They had stressed from the beginning that staff development meant for them that an expert came from outside the setting and was ignored by teachers. IR&DS demonstrated to members of this setting that insiders could be responsible for conducting their own problem solving and could be used as peer staff developers. The research qua research for them was less important than the power and

confidence they gained from trying out several interventions on a problem perceived as being a major one by their teacher colleagues.

Conclusion

This paper has taken a very positive stance regarding the doing of interactive research and development. The features of the strategy are appealing and often seductive to school persons who are caught up in the dailiness of classroom life, often feeling trapped in an unresponsive bureaucracy. The opportunity to work with concerned others on problems that are agreed to be important ones and to see the impact of that work is logically attractive in theory.

It must be remembered, however, that doing r and d is work, demanding work at that. The demands are not just intellectual, although some think that is the case. The demands are interpersonal, how to maintain one's sense of self and still become a member of a cohort group. They are physical, getting the job done in the absence of enough time and sufficient energy. They are contextual, meeting the expectations of colleagues and others regarding a defined role (such as teacher) while trying new behaviors and ideas that may seem exotic or out of place in ongoing classrooms and schools. The demands are ideological, working with others whose points of view must be faced and accounted for.

Despite this belated caveat regarding doing interactive r and d, the payoff for participants and schooling settings appears to be worthwhile. It will be necessary, however, for persons intrigued by IR&D possibilities to weigh those possibilities against the characteristics of the setting, the personal and professional attributes of possible participants, and the desired outcomes of engaging in the strategy. There will be those who decide against using the strategy because of a perceived incompatibility between the

requirements of the strategy and the characteristics of the setting. There will, however, be those who will want to test the strategy as a means to provide growth opportunities for educators and improvement opportunities for schools. We hope to participate in the continued demonstration of interactive r and d in these latter cases.

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